95-115

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The Children's Partnership

Comments Submitted To The Federal Communications Commission

Regarding The Universal Service Policies And Their Application To Schools And Classrooms

By Laurie Lipper and Wendy Lazarus (Directors of The Children's Partnership)

September 27, 1995

The Children's Partnership respectfully submits the following comments under the FCC Docket nos. 95-115, 80-286 regarding universal service and the status of schools and libraries.

The Children's Partnership (TCP) is a national, nonpartisan nonprofit strategy and policy center on children's issues. TCP's hallmark is identifying new trends and crafting new strategies to benefit children, in this way functioning as a research and development (*R&D*) arm to strengthen a children's movement in this country. In September 1994, The Children's Partnership issued a report America's Children and the Information Superhighway, the first comprehensive look at how new technologies affect children in their homes, schools, communities and future workplaces.

Based on nine months of research and analysis, The Children's Partnership found that "information literacy" is, increasingly, an important skill for school children to have for the present and future job market -- particularly for higher paid and more desirable jobs:

- Forty-seven percent of workers used computers on the job in 1993, up from 25% in 1984.
- More than half of new jobs require using some form of information and technological literacy.
- In the early 1990s, workers with computer skills earned 10-15% more than workers without such skills.

Yet, most American children do not have the skills they will need for the job market they will face. For example, 60% of new jobs in the year 2000 will require skills possessed by only 22% of new workers (today's high school students).

While affluent parents are privately subsidizing access to technology for their children, the vast majority of American children are not receiving adequate exposure to such technology and learning skills.

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List A B C D E

Thirty-nine percent of all households with children have a computer; but while 48% of households with children whose family income is $50,000 or more have a child using a personal computer, only 7% of households with a family income under $20,000 do.

It is clear, even at this early stage, that the market alone will not serve the needs of all children and families. Therefore, the most effective way to reach America's children and expose them to these new skills is through our nation's schools.

- Forty-seven million children are in kindergarten through twelfth grade in U.S. schools and could acquire the skills needed if the information technology were effectively integrated into our schools' curricula.

- Yet, only one in seven classrooms has a telephone, a prerequisite for connecting with the national information infrastructure; and only 3% of instructional rooms in public schools have access to the Internet.

Clearly, steps to help our schools achieve connections to telecommunications services are needed, particularly in light of the high cost of wiring schools. A recent study by the Benton Foundation, "The Learning Connection," reports that "the cost of providing schools with up-to-date computers linked to the communications network could easily total $30 billion -- plus operation costs that could run another $5 billion a year." Schools currently spend about $2.7 billion a year on technology.

Timing is also an important consideration. Data show that significant populations of children are already falling behind in information literacy. Without financial relief to schools and incentives for the marketplace, even more schools and children may fall behind, leading to an even greater disparity in school-to-work preparation for children. We urge timely action to help bring information resources to our schools.

The Children's Partnership supports the FCC's efforts to ensure access to advanced telecommunications services for elementary and secondary schools. Building upon the precedent of subsidizing telephone service to ensure nationwide availability, we also support the proposal that telecommunications carriers receive subsidies in order to provide discounts to schools.

In conclusion, at this time of rapid development of the nation's information infrastructure, it is critically important that the Federal Communications Commission attend to the present and future needs of the nation's children.

Based upon our research, we strongly support expanding the universal service mechanism to include ensuring access to advanced telecommunications services for elementary and secondary schools.

Attached, please find a copy of America's Children and the Information Superhighway and related materials, from which the above information has been taken.

Thank you.

The Children's Partnership

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Board of National Advisors

FACT SHEET

America's Children & The Information Superhighway

SKILLS FOR THE FUTURE

As increasingly capable machines join Americans at the workplace -- join them both as co-workers and competitors -- the pay-off to education and training has soared, and the penalty for lacking skills has stiffened.
-- Robert Reich, Secretary of Labor

New information technologies are rapidly transforming the way America operates and what our children need to learn. Information and technology literacy will be as much a part of 21st century life as knowing how to use a telephone is today.

- Experts agree that more than half of new jobs require some form of technology literacy.
- Today's high school graduate can expect to change jobs six to seven times in the course of a lifetime.
- Investments in information technology hardware comprise more than half of business spending on equipment. In addition, information technology equipment and related services together represent the largest export for the U.S., currently twice as great as the previous leader, aircraft.

A Nation Not Ready

In spite of this, we are currently producing a workforce unsuited to the demands of the new global economy.

- 90 million adults -- about 48% of the adult population -- do not possess basic literacy skills.
- 60% of new jobs in the year 2000 will require skills possessed by only 22% of new workers (today's high school students).
- The lack of information literacy costs businesses an estimated $25 to $30 billion annually in poor product quality, low productivity and absenteeism. The expense of training and retraining adds significantly more cost.

Learning and Earning

If we do not provide education and training in technology literacy, we may create a society of information "haves" and "have nots," which can magnify existing social and economic differences.

- In 1993, 47% of workers used computers on the job; up from 25% in 1984.
- In the early 1990s, workers with computer skills earned 10%-15% more than workers without such skills.
- The economic gap between college graduates and non-graduates has grown in the last 15 years: a college graduate earned 49% more than a high-school graduate in 1979; in 1992, a college graduate earned 83% more.

Children, Technology and Poverty

The Communications Act of 1934 assumed that all Americans should have access to communications technology. But this right is frequently dependent upon a family's financial circumstances. In 1994, some 14.5 million children live in poverty, and are therefore missing out on many of the technological benefits available to children from upper-income families.

- In 1992, more American children lived in poverty than in any year since 1965.
- While 65% of households in America with incomes over $100,000 now have a personal computer, only 11% of households with incomes below $20,000 have them.
- Only 7% of households with incomes below $20,000 have a child using a personal computer.
- A recent analysis of a plan by four "Baby Bell" phone companies to lay fiber-optic cables in eight cities revealed an alleged pattern of "redlining" -- bypassing low-income and minority communities.

Where We Go From Here

The economy and the workplace are being transformed by telecommunications technology. It is important to look ahead and actively prepare our youngest citizens to be full participants in the civic and economic life of the future.

The Clinton Administration has taken the initiative of presenting a national vision for the information superhighway. Its September 1993 strategic plan, National Information Infrastructure: Agenda for Action, states that "all of the Administration's policy initiatives are aimed at promoting the transition toward high-wage, higher-value 'new work.'" In addition, the Administration has taken an important first step by setting the goal of having every classroom, library, hospital and clinic "connected" by the year 2000. Further, a number of telecommunications companies have committed significant sums of money to build a network connecting public institutions, including schools, in their service areas.

As positive as these goals and promises are, they fall far short of a true strategic plan: one that establishes the priorities and the particulars of universal reach, backed by the necessary financing to guarantee that every classroom, library, community center and home has adequate hardware and software, and has access to the superhighway. Recognizing that this goal will take a number of years to achieve, there must be a step-by-step plan and timetable for achieving it. Neither now exists nor has been proposed.

Taken from America's Children & The Information Superhighway, September 1994. To order copies of the complete report, write to: The Children's Partnership, 1460 4th Street, Suite 306, Santa Monica, CA 90401, or call (310) 260-1220. Copies are $15.00 for corporations, $8.50 for individuals and nonprofits, plus 8.25% sales tax in California. Bulk rates are available.

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America's Children & The Information Superhighway

IN THE SCHOOL

There are thousands of buildings in this country with millions of people in them who have no telephones, no cable television, and no reasonable prospect of broadband services. They're called schools.
-- Reed Hundt, Chairman, Federal Communications Commission

Ever since the 19th century, schools have been the cornerstone of the effort to ensure that each American child has the opportunity to learn to be an active and productive citizen. Today's 47 million K-12 students could benefit from continuing advances in information technology. But today's schools face both financial and structural challenges in attempting to integrate the new technologies into the learning environment, and technology literacy is not an explicit mandate of the national Goals 2000 program for educational improvement.

These shortcomings have potentially far-reaching implications for children's future job prospects and other areas of life.

Technology in Schools: The Potential

Interactive multimedia and telecommunications technologies can be applied to classrooms and school libraries in many valuable ways:

- *Preschool software*: Computer programs and systems that help preschoolers learn to read, write and conceptualize, using a simple keyboard or a touch-sensitive screen.

- *Educational software*: Computer programs that enable children to learn math, spelling, geography and other subjects, often in the form of a game or adventure.

- *Computer simulations*: Programs with sophisticated graphics and commands that let a child practice real-world knowledge and decision-making skills.

- *E-mail (Electronic mail)*: Typed messages sent from one computer screen to another along a network linking the units, allowing children to communicate instantly with scientists, teachers, other students or friends anywhere in the world.

- *On-line services and the Internet*: Bulletin-board services and databases give children access to vast amounts of information.

- *Graphics:* New creative tools allow children to draw and design original art.

- *Distance learning*: Students in remote locations can take classes or visit museums and libraries with live video hookups.

- *Electronic portfolios*: Systems that keep electronic records of a child's work, allowing teachers and students to access information easily.

Technology in Schools: The Reality
The availability and quality of computers and other technology varies widely from school to school.

On the one hand:

- 92% of students use a computer in school at some point during the school year, and more than half the nation's classrooms have at least one computer.

However:

- 80% of all school computers are considered "obsolete" by the Department of Commerce's Information Infrastructure Task Force.
- The top 20% of schools (i.e. those with the highest ratio of computers to students) have nine times as many computers as schools in the bottom 20%.
- California ranks 49th in computer-to-student ratio, a particularly unfortunate fact considering one in eight children in the United States lives in California.
- 27%-39% of all students report that computers are frequently unavailable at school.

Limited Access to the Superhighway

- Fewer than one classroom in seven has the capability of using a modem and phone line to connect a computer with the Internet or any other online system.

Computer Knowledge: America v. Europe

- American students rank behind Austria, Germany and the Netherlands in practical computer knowledge.

Gender Gap: Are Girls Being Left Behind?

- Studies show that by the mid-teen years, when computer courses are typically elective, girls begin to lose interest in computers at school, and this gender gap widens throughout college and graduate school.

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A LITTLE FURTHER DOWN THE SUPERHIGHWAY
May 1995

Online households, December 1994: 16.6 million[1]
Online households, December 1995 (est.): 20.7 million[2]
Projected increase in online households, 1994-1998: 95%[3]

Net daily increase in subscribers to online services: over 10,000[4]

Online newspaper services as of December 1993: 20[5]
Online newspaper services as of February 1995: 95[6]

Public elementary schools with Internet access: 30%[7]
Public secondary schools with Internet access: 49%[8]
Instructional rooms in all public schools with Internet access: 3%[9]

Public schools in the Fall of 1994 that cited the following "major barriers" to their acquisition and use of advanced telecommunications:
Lack of specifically allocated funds: 69%[10]
Lack of equipment or poor equipment: 50%[11]
Lack of teacher awareness regarding ways to integrate telecommunications into the classroom: 34%[12]
Lack of student interest: 2%[13]

Elementary and secondary schools with home pages on the World Wide Web, as of March 1994: 4[14]
Elementary and secondary schools with home pages on the World Wide Web, as of May 1995: 500[15]
Estimated number of schools creating home pages on the World Wide Web each month in 1995: 100[16]

Change in vocabulary scores for 18-year-olds, 1940-1992: Down 36%[17]
Adults who are functionally illiterate: 48%[18]

Age of the online user who recently made a homemade bomb out of gunpowder, gasoline and foam chips, from a "recipe" he found surfing the Internet: 12[19]

Internet users who are women: 36%[20]
Home video game players who are girls: less than 20%[21]
Units sold of *Mortal Kombat* and *Mortal Kombat II*: 12 million[22]

Growth in all home-education software sales, first 3 quarters of 1994 v. first 3 quarters of 1993: 94.6% [23]

Projected 1998 sales of educational software: $888 million[24]
Projected 1998 sales of video games: $14.3 billion[25]

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REFERENCES

[1] Jupiter Communications, *The 1995 Consumer Online Service Report*, January 1995, p. 25, and personal interview with Diana Simeon, Jupiter Communications. An online household is one with a computer and modem.

[2] Ibid.

[3] Ibid.

[4] UPI, "1 Million Sign Up for Online Services," April 7, 1995, quoting *Information & Interactive Services Report* editor Rod Kuckro.

[5] Jupiter Communications, *1995 Online Newspaper Report* (abstract)

[6] Ibid.

[7] National Center for Education Statistics, *Advanced Telecommunications in U.S. Public Schools, K-12*, February 1995, p 3.

[8] Ibid.

[9] Ibid.

[10] Ibid, p. 19

[11] Ibid.

[12] Ibid.

[13] Ibid.

[14] Collins, Stephen, Web66 Registry (http://web66.coled.umn.edu/), reported in *Technology for Learning*, Number 14, May 7, 1995; personal interview, John Clements, National Science Foundation, Education and Human Resources, Division of Research, Evaluation and Dissemination

[15] Ibid.

[16] Ibid.

[17] Vocabulary Scale Scores, as measured by the New York City-based Johnson O'Connor Research Foundation. In 1940, the median VSS scores for 18-year-olds were 185; in 1992 they had declined to 118. Figures reported in Dortch, "Talking With Fewer Words," *American Demographics*, April 1995.

[18] In other words, approximately 90 million adult Americans "were 'at risk' because they could perform only the simplest of tasks" requiring literacy, according to a September 1993 study by the Department of Education, reported in *Los Angeles Times*, August 2, 1994. Information Infrastructure Task Force, *The National Information Infrastructure: Agenda for Action*, May 1994, also quotes the figure of 90 million functionally illiterate adults (p.16).

[19] Statement of Senator Herb Kohl (D-Wis.) to the Subcommittee on Terrorism, Technology and Government Information, Senate Judiciary Committee, May 12, 1995. The boy found this recipe "just days before" the April 19 bombing in Oklahoma City. His father found the bomb before it detonated, and turned it onto the police.

[20] Weise, Elizabeth, "Research finds Internet isn't just for the boys," *Daily News* May 12 1995 (AP), using figures from Matrix Information & Directory Services, 1995. Note that the figure refers to account holders.

[21] Harmon, "Fun and Games -- and Gore," *Los Angeles Times*, May 12, 1995.

[22] Ibid.

[23] Haile, "Child's Play," *Hollywood Reporter*, February 21, 1995.

[24] Vernois Suhler & Associates Communications Industry Forecast, reported in "Charting the Interactive Market," *New Media*, September 5, 1994.

[25] Ibid.

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